IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Inventorship	Shao-Chun Chen
Applicant/Appellant	Hewlett-Packard Company
Group Art Unit	2617
Examiner	HERRERA, Diego D.
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Title: Mobile handset update package generator that employs nodes technique

APPEAL BRIEF

To: MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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Sir:

As required under 37 C.F.R. §41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case on January 8, 2011 and is in furtherance to the Notice of Appeal.

This brief contains items under the following headings as required by 37 C.F.R. §41.37 and M.P.E.P. §1206:

I. Real Party In Interest
II. Related Appeals, Interferences, and Judicial Proceedings
III. Status of Claims
IV. Status of Amendments
V. Summary of Claimed Subject Matter
VI. Grounds of Rejection to be Reviewed on Appeal
VII. Argument
VIII. Claims Appendix
IX. Evidence Appendix
X. Related Proceedings Appendix

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, L.P., a limited partnership established under the laws of the State of Texas and having a principal place of business at 11445 Compaq Center Drive West, Houston 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 22 claims pending in this application (Claims 1-22).

B. Current Status of Claims

1. Claims canceled: none.
2. Claims withdrawn from consideration but not canceled: none.
3. Claims pending: 1-22.
4. Claims allowed: none.
5. Claims rejected: 1-22.

C. Claims on Appeal

The claims on appeal are claims 1-22.

IV. STATUS OF AMENDMENTS

Appellant last amended the claims in an Amendment and Response filed on August 27, 2010, and these amendments were entered. Therefore the claims on appeal (as reflected in the claim appendix) are the claims presented in the Amendment and Response filed on August 27, 2010 and have already been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following is provided pursuant to Rule 41.37(c)(1)(v) which requires "a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, which shall refer to the specification by page and line number, and to the drawings if any, by reference characters." Nothing in this Section V should be construed to limit the scope of any of the claims involved in the appeal, which are enumerated in full in the Appendix to this Appeal Brief.

Paragraph numbers used below refer to the application as published by the US Patent Office.

According to claim 1, a mobile services network comprising: a mobile electronic device (107 in FIG. 1A; para. [0020], [0023]-[0028]). A management server (109 in FIG. 1A; para. [0020]-[0021] and [0026]). An update package repository (133 in FIG. 1A; para. [0020]-[0022, [0025]-[0026]). A generator with nodes preprocessor (145 in FIG. 1A; para. [0020]-[0023]; [0026]-[0027], [0033]), which generates a package of update information. Wherein generating comprises predicting (215 in FIG. 2; para. [0036]-[0038]) the contents of locations in a new version of firmware (165 in FIG. 1B; para. [0028]-[0031]) based on differences in addresses identified between corresponding symbols in an old version of firmware (163 in FIG. 1B; para. [0028]-[0031]) and the new version of firmware (165 in FIG. 1B), and identifying as nodes corresponding locations in the old version of firmware (163 in FIG. 1B) for the mobile electronic device (107 in FIG. 1A) and the new version of firmware (165 in FIG. 1B) for the mobile electronic device (107 in FIG. 1A), for which contents of the location in the new version of firmware (165 in FIG. 1B) was not able to be predicted. Wherein predicting (215 in FIG. 2) includes determining location of some symbols based on relocation information gathered from node symbols.

According to claim 16, a method for generating an update package stored in a computer readable medium (133 in FIG. 1A; para. [0020]-[0022, [0025]-[0026]) using an old image (163 in FIG. 1B; para. [0028]-[0031]) and a new image (165 in FIG. 1B; para. [0028]-[0031]) of a firmware for a mobile electronic device (107 in FIG. 1A; para. [0020], [0023]-[0028]) in a mobile services network, the method comprising: converting symbols in the new (165 in FIG. 1B) and old (163 in FIG. 1B) images of the firmware into distance information. Determining a list of nodes in the old (163 in FIG. 1B) and new (165 in FIG. 1B) images of the firmware. Generating filter information, wherein generating filter information comprises capturing information regarding addresses where the contents of the location in the new image (165 in FIG. 1B) of firmware was able to be predicted. Generating the update package to be stored in a computer readable medium. Outputting the generated update package. Wherein determining comprises predicting (215 in FIG. 2; para. [0036]-[0038]) the contents of locations in the new version (165 in FIG. 1B) of firmware based on differences in addresses identified between corresponding symbols in the old version (163 in FIG. 1B) of firmware and the new version (165 in FIG. 1B) of firmware, and identifying as nodes corresponding locations in the old image (163 in FIG. 1B) of firmware and the new image (165 in FIG. 1B) of firmware for which contents of the location in the new image (165 in FIG. 1B) of firmware was not able to be predicted. Wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols.

According to claim 22, a method for generating an update package to be stored in a computer readable medium (133 in FIG. 1A; para. [0020]-[0022, [0025]-[0026]) using an old image (163 in FIG. 1B; para. [0028]-[0031]) and a new image (165 in FIG. 1B; para. [0028]-[0031]) of a firmware for a mobile electronic device (107 in FIG. 1A; para. [0020], [0023]-[0028]) in a mobile services network, the method comprising the steps of: converting symbols in the new (165 in FIG. 1B) and old (163 in FIG. 1B) images of the firmware into distance information. Determining a list of nodes in the old (163 in FIG. 1B) and new (165 in FIG. 1B) images of the firmware. Generating information for a first filter. Creating a partially modified old image of the firmware utilizing the first filter. Generating information for a second filter. Creating a modified old image of the firmware utilizing the second filter and the partially modified old image of the firmware. Generating the update package to be stored in a computer readable medium. Outputting the generated update package. Wherein determining comprises predicting (215 in FIG. 2; para. [0036]-[0038]) the contents of locations in the new

version (165 in FIG. 1B) of firmware based on differences in addresses identified between corresponding symbols in the old version (163 in FIG. 1B) of firmware and the new version (165 in FIG. 1B) of firmware, and identifying as nodes corresponding locations in the old image (163 in FIG. 1B) of firmware and the new image (165 in FIG. 1B) of firmware for which contents of the location in the new image (165 in FIG. 1B) of firmware was not able to be predicted based upon the old image (163 in FIG. 1B) of firmware. Wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols.

The summary is set forth in several exemplary embodiments that correspond to the independent claims. It is noted that no dependent claims containing means plus function are argued separately. Discussions about elements and recitations to these claims can be found at least at the cited locations in the specification and drawings.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1) The Examiner rejected claims 1, 16, and 22 under 35 U.S.C. 112, first paragraph.
2) The Examiner rejected claims 1-22 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication 2003/0204640 to Sahinoja, et al. (Sahinoja), and U.S. Patent Publication No. 2004/0098715 to Aghera, et al. (Aghera), and in view of U.S. Patent No. 5,649,112 to Yeager, et al. (Yeager).

VII. ARGUMENT

Standard of Rejection under 35 U.S.C. §112, first paragraph

The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the written description requirement. MPEP 2163.02. Instead, the fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. MPEP 2163.02 citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). An applicant may rely on, among other things, words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. MPEP 2163.02 citing

Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997).

First Rejection - 35 U.S.C. §112

Claims 1, 16, and 22 stand rejected under 35 U.S.C. 112, first paragraph.

Independent Claims 1, 16, and 22

The Examiner states that the specification does not enable the claim recitations "for which contents of the location in the new version of firmware was not able to be predicted."

When read in context, this portion of claim 1 recites ". . . and **identifying as nodes** corresponding locations in the old version of firmware for the mobile electronic device and the new version of firmware for the mobile electronic device, **for which contents of the location in the new version of firmware was not able to be predicted**. Appellant noted when these recitations were added by amendment, that support could be found in the specification in para. 27 of the application as originally filed (para. [0030] of the published application), which is reproduced below:

> *In one embodiment, the node technique may include determining changes of locations of various symbols in the old binary image 163, determining "node" symbols, and predicting the location of some symbols based on relocation information gathered from the "node" symbols. In one embodiment, the nodes may be determined by comparing each symbol from the old and new binary images to determine locations of code segments in the new binary image. In a related embodiment, symbols may be identified, given that locations of such symbols may be predicted as offsets from "node" symbols. Wherein, "node" symbols appear as relocated symbols for which location may not be easily predicted, such as the symbol for the beginning of a function that may have been relocated. Determining "node" symbols may be achieved by scanning through the symbols of the old binary image 163, locating the corresponding symbols in the new binary image 165, comparing the differences in the addresses of the symbols, predicting the differences in addresses for subsequent symbols,* ***identifying symbols with offsets that were not predicted, and using those***

identified symbols as "node" symbols. *Determining "node" symbols may also include determining the range of addresses where offset prediction or address differences work, and capturing and storing such information as filter information. Filter information, for example, may consist of entries wherein each entry may be a 2-tuple comprising a location and a range value as shown hereinafter in an example.*

Clearly, that the specification provides adequate support for the rejected claim recitations. The subject matter of the claim need not be described literally (i.e., using the same terms) in order for the disclosure to satisfy the requirements of Section 112, first paragraph. Accordingly, the rejection is in error.

The Examiner also states that the specification does not enable the following claim recitations "changing contents of the location in the new version of firmware into distance information and compared to old version of firmware to predict the new nodes." Appellant cannot find these quoted recitations in any of the pending claims. Therefore, Appellant is unable to properly respond to this portion of the rejection. In any event, Appellant believes that the quoted portion (above) of the specification provides adequate support for the actual claim recitations.

Appellant also notes that the rejection states "[s]ee, response to arguments below for further explanation." However, the Response to Arguments simply states that "claims 1-22 have been considered but are moot in view of the new ground(s) of rejection." No further explanation of the Section 112 rejection is provided here.

Standard of Rejection under 35 U.S.C. §103

In its decision, KSR Int'l Co. v. Teleflex, Inc., No 04-1350 (U.S. Apr. 30, 2007), the Supreme Court reaffirmed application of the Graham factors in making a determination of obviousness under 35 U.S.C. § 103(a). The four factual inquiries under Graham are: (1) determining the scope and contents of the prior art; (2) ascertaining the differences between the prior art and the claims in issue; (3) resolving the level of ordinary skill in the pertinent art; and (4) evaluating evidence of secondary consideration. Even if all of the prior art elements are disclosed by separate prior art references, the Examiner still must identify the

reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.

Second Rejection - 35 U.S.C. §103(a)

Claims 1-22 under 35 U.S.C. 103(a) as being unpatentable over Sahinoja, and Aghera, and in view of Yeager.

Independent Claim 1

Claim 1 recites "wherein generating comprises predicting the contents of locations in a new version of firmware based on differences in addresses identified between corresponding symbols in an old version of firmware and the new version of firmware, and identifying as nodes corresponding locations in the old version of firmware for the mobile electronic device and the new version of firmware for the mobile electronic device, for which contents of the location in the new version of firmware was not able to be predicted; and wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols" (emphasis added). The cited combination fails to disclose at least these recitations.

Appellant maintains that the Examiner has still not clearly articulated what exactly in the cited references is being relied on as being the act of predicting, as positively recited and defined in claim 1.

The Examiner properly admits that Sahinoja does not teach these recitations. Instead, the Examiner maintains that para. [0057]-[0060] and [0065], and Fig. 10 in Aghera teach each of these recitations.

Specifically, the Examiner states that "Aghera teaches blocks are set for DSP Patch Version for a particular patch followed by memory address of DSP Patch Data for that particular patch." The Examiner asserts that this teaches predicting in the claim recitations.

More accurately, Aghera discloses at para. [0058] that "FIG. 10 shows a memory map of the DSP patch blocks 162 shown in FIG. 9. The DSP patch blocks 162 include a patch

version table (PVT) 164 and a patch data area 166." In addition, "[a]n index of all DSP patches stored in the DSP patch blocks 162 is maintained in the PVT 164. The PVT 164 contains a DSP Patch Version for a particular patch followed by memory address of DSP Patch Data for that particular patch, as shown in FIG. 10."

While Figure 10 in Aghera shows a memory map for patch blocks and an index of all patches stored in the patch blocks, there is no teaching of predicting the contents of locations in a new version of firmware based on differences in addresses identified between corresponding symbols in an old version of firmware and the new version of firmware, wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols.

The Examiner also properly admits that Sahinoja and Aghera do not teach the claim recitations of "wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols." Instead, the Examiner relies on Yeager (abstract, col. 4, lines 28-45, and col. 5, lines 14-30). The Examiner asserts that "converting code, assigning space, and replacing code to update systems by the nodes in memory" teaches predicting determining location of some symbols based on relocation information gathered from node symbols. Appellant disagrees. **Assigning space** and **replacing code** has nothing to do with **predicting**, including specifically by **determining the location of some symbols based on relocation information gathered from node symbols**.

For at least the foregoing reasons, the Examiner has failed to establish that independent claim 1 is unpatentable in view of the cited references.

Dependent Claims 2-15

Claims 2-15 depend from claim 1, which is believed to be allowable. Therefore, claims 2-15 are also believed to be allowable for at least the same reasons as claim 1.

Independent Claim 16

Claim 16 recites "converting symbols in the new and old images of the firmware into distance information." The Examiner asserts that "Sahinoja teaches comparison according to predetermined criteria to updating mobile device" at para. [0016]-[0017]. Sahinoja discloses:

> *[0016] According to an embodiment of the invention, a method for generating a request for at least a part of management related information of an electronic device is provided. The management related information is contained in a plurality of nodes arranged as a hierarchical structure, preferably a tree-like structured. At least one of said nodes contains a certain part of the management related information. The generated request is obtained from a coding of an address information, a command and an additional information relating to the hierarchical structure of a plurality of nodes connected to the selected node. The address information describes one selected node of the plurality of nodes arranged hierarchically containing a certain part of the management related information. The command instructs a request receiving device to retrieve the part of management related information contained in the selected node and further instructs the request receiving device to return the retrieved part of management related information.*
>
> *[0017] According to an embodiment of the invention, the command further instructs the request receiving device to retrieve the parts of management related information associated with the plurality of connected nodes and further instructs the request receiving device to return additionally these retrieved parts of management related information, preferably in combination with the retrieved part of management related information associated with the selected node.*

However, Appellant can find no teaching here of 'comparison according to predetermined criteria to updating mobile device,' as claimed by the Examiner. Moreover, even if Sahinoja were to teach 'comparison according to predetermined criteria to updating mobile device,' this still would not teach converting symbols in the new and old images of the firmware into distance information.

Claim 16 also recites "determining a list of nodes in the old and new images of the firmware." The Examiner relies on para. [0023] in Sahinoja, which states:

[0023] According to an embodiment of the invention, the command of the request is a modified GET command. The modification is performed by coding a modified TARGET address in the GET command containing the information relating to the hierarchical structure of a plurality of nodes connected to the selected node.

However, this does not teach determining a list of nodes in the old and new images.

Claim 16 also recites "wherein generating filter information comprises capturing information regarding addresses where the contents of the location in the new image of firmware was able to be predicted." The Examiner relies on Sahinoja at para. [0010], [0012], [0020] and [0023]-[0025]. Specifically, the Examiner explains that Sahinoja "teaches address management for nodes and software updates." However, this reasoning fails to connect the "filter information" disclosed at para. [0019]-[0020] in Sahinoja with the claim recitations. To the contrary, here Sahinoja explains that "[t]he filter information is used to selectively retrieve parts of management related information from the nodes." But this does not teach that filter information is used for capturing information regarding addresses where the contents of the location in the new image of firmware was able to be predicted.

Claim 16 further recites "wherein determining comprises predicting the contents of locations in the new version of firmware based on differences in addresses identified between corresponding symbols in the old version of firmware and the new version of firmware, and identifying as nodes corresponding locations in the old image of firmware and the new image of firmware for which contents of the location in the new image of firmware was not able to be predicted; and wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols." The Examiner repeats his reasoning for rejecting similar recitations in claim 1. But these additional recitations are not taught by Sahinoja, Aghera, or Yeager, for the reasons already discussed above for claim 1.

For at least the foregoing reasons, the Examiner has failed to establish that independent claim 16 is unpatentable in view of the cited references.

Dependent Claim 17

Claim 17 depends from claim 16, which is believed to be allowable. Therefore, claim 17 is also believed to be allowable for at least the same reasons as claim 16.

In addition, claim 17 further recites "wherein the distance information is determined by locating the symbols of the old image and the new image." The Examiner cites to para. [0016]-[0017]. Here, Sahinoja teaches the address information describes one selected node of the plurality of nodes arranged hierarchically containing a certain part of the management related information. The command instructs a request receiving device to retrieve the part of management related information contained in the selected node and further instructs the request receiving device to return the retrieved part of management related information. This is opposite of the claim recitation - that is the address information describes a selected node – not distance information. Sahinoja goes on to describe the command further instructs the request receiving device to retrieve the parts of management related information associated with the plurality of connected nodes and further instructs the request receiving device to return additionally these retrieved parts of management related information. But connected nodes is not distance information determined by locating the symbols of the old image and the new image.

Dependent Claim 18

Claim 18 depends from claim 16, which is believed to be allowable. Therefore, claim 18 is also believed to be allowable for at least the same reasons as claim 16.

In addition, claim 18 further recites "determining addresses of symbols in the old image; determining addresses of corresponding symbols in the new image; comparing the differences in the addresses of the corresponding symbols in the old image and the new image; predicting differences in addresses of subsequent symbols based on the differences in the addresses of previous symbols; determining the symbols for which offsets cannot be predicted; and using the unpredictable symbols as additional node symbols."

The Examiner relies on Sahinoja at para. [0016] and [0020]-[0024] as teaching determining addresses of symbols in the old image and the new image. Here, Sahinoja describes the management related information is contained in a plurality of nodes arranged as

a hierarchical structure, preferably a tree-like structured. However, there is no teaching of determining addresses of symbols in the old and new images.

The Examiner also relies on Sahinoja at para. [0016]-[0017] as comparing the differences in the addresses of the corresponding symbols in the old image and the new image. Here, Sahinoja describes a hierarchical structure of a tree. However, there is no specific teaching of comparing the differences in the addresses of the corresponding symbols in the old image and the new image.

The Examiner relies on Aghera at para. [0057]-[0059] as teaching predicting differences in addresses of subsequent symbols based on the differences in the addresses of previous symbols. Here, Aghera describes a memory map of the DSP patch blocks, where the DSP patch blocks include a patch version table (PVT) and a patch data area. Multiple DSP Patches may be stored in the DSP patch blocks. An index of all DSP patches stored in the DSP patch blocks is maintained in the PVT. The PVT contains a DSP Patch Version for a particular patch followed by memory address of DSP Patch Data for that particular patch, as shown in FIG. 10. But none of this teaches predicting differences in addresses of subsequent symbols based on the differences in the addresses of previous symbols. To the contrary, maintaining a memory map in Aghera eliminates the need to predict.

The Examiner relies on Aghera at para. [0065] as teaching determining the symbols for which offsets cannot be predicted. Here, Aghera describes that a particular installation state indicates all the operations to reach that state have been performed completely, and lists installation states and operations that are required to reach a state from its previous state. But this by itself does not teach determining the symbols for which offsets cannot be predicted.

The Examiner relies on Aghera at para. [0058]-[0060] as teaching using the unpredictable symbols as additional node symbols. Here, Aghera describes that a DSP Patch is not stored in its object format in the flash memory, but as a series of MDI messages that are converted to DSP object code by the patch loader. But this does not teach using the unpredictable symbols as additional node symbols.

Dependent Claim 19

Claim 19 depends from claim 16, which is believed to be allowable. Therefore, claim 19 is also believed to be allowable for at least the same reasons as claim 16.

In addition, claim 19 further recites "wherein a pre-predict phase is performed to generate filter information." Appellant notes that the Examiner provides no support for rejecting this recitation. Therefore, **the rejection is incomplete** and in error.

Claim 19 also recites "wherein the pre-predict phase comprises: identifying instructions using instruction prediction; fixing address locations and producing filter information; and fixing data and producing filter information using block hunting." The Examiner states that Sahinoja "teaches exploration of nodes identifying nodes or instructions, hence instruction prediction upon request" at Fig. 4 and para. [0110]-[0111] and [0114]-[0116]. However, exploring nodes is not the same as identifying instructions using instruction prediction. The Examiner is improperly interpreting the reference and does not provide adequate explanation for his interpretation.

The Examiner also states that Sahinoja "teaches filter information produce after determining address locations." However, the mere mention of filter information by itself does not teach fixing address locations and producing filter information. The Examiner is either not providing sufficient reasoning for the rejection, or is ignoring portions of the claim recitations in making the rejection.

The Examiner also states that Sahinoja "teaches updating data blocks or nodes that have been identified by address as needed to update." However, the mere mention of nodes does not teach fixing data and producing filter information using block hunting. The Examiner is either not providing sufficient reasoning for the rejection, or is ignoring portions of the claim recitations in making the rejection.

Dependent Claim 20

Claim 20 depends from claim 16, which is believed to be allowable. Therefore, claim 20 is also believed to be allowable for at least the same reasons as claim 16.

In addition, claim 20 further recites "wherein the filter information comprises node location and address range information where prediction was successful." The Examiner relies on the filter information and address identification in Sahinoja to support this rejection. However, the mere mention of filter information and address identification does not teach **where prediction was successful**. The Examiner is either not providing sufficient reasoning for the rejection, or is ignoring portions of the claim recitations in making the rejection.

Dependent Claim 21

Claim 21 depends from claim 16, which is believed to be allowable. Therefore, claim 21 is also believed to be allowable for at least the same reasons as claim 16.

In addition, claim 21 further recites "wherein a pre-predict phase is performed to generate filter information, and wherein the pre-predict phase is followed by a predict phase, wherein the predict phase comprises: performing instruction prediction utilizing the generated filter information; and executing block hunting utilizing the generated filter information." The Examiner relies on Sahinoja at para. [0117]-[0119] as teaching a pre-predict phase. Here, Sahinoja discusses exploring of the management tree, then the information is retrieved from an identified node, and the retrieved information from the identified nodes can be filtered. But there is no teaching of a pre-predict phase being used to generate filter information. Appellant notes that filtering information is fundamentally different than generating filter information because filters are used to eliminate unwanted information, but are not used for predictions.

With regard to the claim recitation of "wherein the pre-predict phase is followed by a predict phase," the Examiner simply repeats the claim recitation without providing any support in the reference for maintaining the rejection. Therefore, **the rejection is incomplete** and in error.

The Examiner then states that Sahinoja "teaches exploration of nodes identifying nodes or instructions, hence instruction prediction upon request." However, exploration of nodes does not teach performing instruction prediction utilizing the generated filter information. Indeed, exploration or discovery of actual information eliminates the need to predict that information.

The Examiner also states that Sahinoja "teaches updating blocks or nodes that have been identified by address as needed to update." However, updating blocks does not teach block hunting utilizing the generated filter information. Updating is not the same as hunting. Again, the Examiner is either not providing sufficient reasoning for the rejection, or is ignoring portions of the claim recitations in making the rejection.

Independent Claim 22

Claim 22 recites "converting symbols in the new and old images of the firmware into distance information; determining a list of nodes in the old and new images of the firmware; generating information for a first filter; creating a partially modified old image of the firmware utilizing the first filter; generating information for a second filter; creating a modified old image of the firmware utilizing the second filter and the partially modified old image of the firmware; wherein determining comprises predicting the contents of locations in the new version of firmware based on differences in addresses identified between corresponding symbols in the old version of firmware and the new version of firmware, and identifying as nodes corresponding locations in the old image of firmware and the new image of firmware for which contents of the location in the new image of firmware was not able to be predicted based upon the old image of firmware; and wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols" (emphasis added). These recitations are not disclosed or taught by the cited references, as already explained in more detail above when Appellant argued similar recitations in the other claims.

Furthermore, the Examiner still has not provided any support for the rejection of the recitations of "creating a partially modified old image of the firmware utilizing the first filter" and "creating a modified old image of the firmware utilizing the second filter and the partially modified old image of the firmware." as positively recited in claim 22. The Examiner simply repeated these recitations in the rejection, without any citation to either of the references as teaching these recitations. Therefore, **the rejection is incomplete** and in error.

For at least the foregoing reasons, the Examiner has failed to establish that independent claim 22 is unpatentable in view of the cited references.

Conclusion

For the reasons provided herein, Appellant respectfully requests the Board to rule that the rejections of the claims are improper.

Respectfully Submitted,

/Mark D. Trenner/

Dated: March 7, 2011 By: _____

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VIII. CLAIMS APPENDIX

1. A mobile services network comprising:

a mobile electronic device;

a management server;

an update package repository;

a generator with nodes preprocessor, which generates a package of update information; and

wherein generating comprises predicting the contents of locations in a new version of firmware based on differences in addresses identified between corresponding symbols in an old version of firmware and the new version of firmware, and identifying as nodes corresponding locations in the old version of firmware for the mobile electronic device and the new version of firmware for the mobile electronic device, for which contents of the location in the new version of firmware was not able to be predicted; and

wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols.

2. The network according to claim 1 wherein the generator with nodes preprocessor generates update packages by comparing the old version and the new version of firmware.

3. The network according to claim 2 wherein the update packages are populated into the update package repository.

4. The network according to claim 2 wherein the generated update packages incorporate filter information.

5. The network according to claim 2 wherein the generated update packages incorporate node information.

6. The network according to claim 1 wherein the management server and the update package repository are communicatively coupled.

7. The network according to claim 1 wherein the generator with nodes preprocessor and the update package repository are communicatively coupled.

8. The network according to claim 1 wherein the generator with nodes preprocessor is located at a remote location from the update package repository.

9. The network according to claim 1 wherein the mobile electronic device comprises:
a non-volatile memory;
a random access memory; and
security services.

10. The network according to claim 9 wherein the non-volatile memory comprises:
an update agent;
a firmware and real-time operating system;
a download agent; and
a boot initialization.

11. The network according to claim 10 wherein the non-volatile memory further comprises an operating system layer.

12. The network according to claim 10 wherein the non-volatile memory further comprises an end-user-related data and content unit.

13. The network according to claim 10 wherein the mobile electronic device executes an update process according to the following:
downloading an update package from the update package repository;
rebooting;
executing the boot initialization;
determining whether an update process is needed; and
invoking the update agent.

14. The network according to claim 13 wherein the mobile electronic device determines the need for an update process based on status information.

15. The network according to claim 13 wherein the mobile electronic device invokes the update agent to execute the update process if it is determined an update process is needed.

16. A method for generating an update package stored in a computer readable medium using an old image and a new image of a firmware for a mobile electronic device in a mobile services network, the method comprising:

converting symbols in the new and old images of the firmware into distance information;

determining a list of nodes in the old and new images of the firmware;

generating filter information, wherein generating filter information comprises capturing information regarding addresses where the contents of the location in the new image of firmware was able to be predicted;

generating the update package to be stored in a computer readable medium;

outputting the generated update package;

wherein determining comprises predicting the contents of locations in the new version of firmware based on differences in addresses identified between corresponding symbols in the old version of firmware and the new version of firmware, and identifying as nodes corresponding locations in the old image of firmware and the new image of firmware for which contents of the location in the new image of firmware was not able to be predicted; and

wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols.

17. The method according to claim 16 wherein the distance information is determined by locating the symbols of the old image and the new image.

18. The method according to claim 16 wherein the determining comprises:

determining addresses of symbols in the old image;

determining addresses of corresponding symbols in the new image;

comparing the differences in the addresses of the corresponding symbols in the old image and the new image;

predicting differences in addresses of subsequent symbols based on the differences in the addresses of previous symbols;

determining the symbols for which offsets cannot be predicted; and

using the unpredictable symbols as additional node symbols.

19. The method according to claim 16 wherein a pre-predict phase is performed to generate filter information, and wherein the pre-predict phase comprises:

identifying instructions using instruction prediction;

fixing address locations and producing filter information; and

fixing data and producing filter information using block hunting.

20. The method according to claim 16 wherein the filter information comprises node location and address range information where prediction was successful.

21. The method according to claim 16 wherein a pre-predict phase is performed to generate filter information, and wherein the pre-predict phase is followed by a predict phase, wherein the predict phase comprises:

performing instruction prediction utilizing the generated filter information; and

executing block hunting utilizing the generated filter information.

22. A method for generating an update package to be stored in a computer readable medium using an old image and a new image of a firmware for a mobile electronic device in a mobile services network, the method comprising the steps of:

converting symbols in the new and old images of the firmware into distance information;

determining a list of nodes in the old and new images of the firmware;

generating information for a first filter;

creating a partially modified old image of the firmware utilizing the first filter;

generating information for a second filter;

creating a modified old image of the firmware utilizing the second filter and the partially modified old image of the firmware;

generating the update package to be stored in a computer readable medium;

outputting the generated update package; and

wherein determining comprises predicting the contents of locations in the new version of firmware based on differences in addresses identified between corresponding symbols in the old version of firmware and the new version of firmware, and identifying as nodes corresponding locations in the old image of firmware and the new image of firmware for which contents of the location in the new image of firmware was not able to be predicted based upon the old image of firmware; and

wherein predicting includes determining location of some symbols based on relocation information gathered from node symbols.

IX. EVIDENCE APPENDIX

Not applicable.

X. RELATED PROCEEDINGS APPENDIX

Not applicable.